DOCUMENT RESUME

ED 294 375 EC 202 544

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TITLE Assessing Elements of Teacher-Student Communicative Interactions.
PUB DATE 30 Oct 87
NOTE 12p.; Paper presented at the Annual Conference of the Association for the Severely Handicapped (14th, Chicago, IL, October 29-30, 1987). For related document, see EC 202 545.
PUB TYPE Speeches/Conference Papers (150) -- Reports - Evaluative/Feasibility (142)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Interaction Process Analysis; *Interpersonal Communication; *Multiple Disabilities; Nonverbal Communication; *Severe Disabilities; Student Behavior; Student Reaction; Teacher Behavior; *Teacher Student Relationship; Verbal Communication; Videotape Recordings

ABSTRACT

Interactions between teachers and multiply disabled students were videotaped, and procedures were developed to analyze the interactions, in order to assist the teachers in evaluating the relationship between their own and their student's communicative behavior. Coding categories were prepared to identify characteristics of the student's communications, the form of the teacher's communication, and the student's response to the teacher's communication. The results, summarized in matrix form, show the relationship between the form of the teacher's communication (e.g., linguistic, conventional non-linguistic, touch, manipulation, pause in contact, depictive action, non-depictive action) and the response of the student (e.g., positive or negative effect, comply, reject, participate, echo, no effect, can't tell, no response expected). The procedures yield detailed assessment information concerning the students' communicative behavior and responsiveness to the communications of others, which may be used to guide program design and implementation, to evaluate interventions, and to measure student progress. Matrices of the communication of four teacher-student pairs are provided to illustrate use of the procedures. (Author/JDD)

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Assessing Elements of Teacher-Student Communicative Interactions

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Presented at the Annual Meeting of the Association for Persons with Severe Handicaps, Chicago, IL, October 30, 1987.

EC 202544

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Introduction

Procedures based on the analysis of videotaped interactions were developed to assist teachers to examine the relationship between their own and their partner's communicative behavior. The procedures enable teachers to determine the forms of communication which are effective in eliciting responses from individual students, and provides a profile of the student's use of communication. The results may be used by teachers to suggest directions for modification of their communicative approaches, and to set realistic communication goals for their students. Reapplication of the procedures over time allows the teacher to evaluate the effects of program modifications, and to measure and document student progress in communicative ability.

Procedures

Teachers were videotaped in routine classroom activities interacting with students having multiple disabilities including students with deaf-blindness. The videotaped interactions were transcribed to identify in sequence all of the teacher and student communicative expressions. Each communicative expression was then coded together by the teacher and a project staff member while reviewing the videotape.

Coding of the videotaped interaction was a multi-step procedure involving several passes through the videotape. On each pass, a specific aspect of the interaction was coded. On the first pass, each of the student's communicative expressions were identified as Elicited or Spontaneous. Elicited expressions were defined as those which occurred in response to an overt communicative act on the part of the teacher. Spontaneous expressions were those which did not appear to result from an overt communicative act by the teacher. Each student's communicative expression or response, whether elicited or spontaneous, was then categorized as follows:

Categories for Coding Student Communications and Responses

Positive Affect: indication of pleasure, alertness, or orientation in reaction to a stimulus

Negative Affect: indication of displeasure or discomfort in reaction to a stimulus

Comply: appropriate response to a specific request or demand

Reject: overt refusal to comply or participate

Participate: overt effort to participate in, add to, or to initiate an interaction

Echo: repetition of the teacher's movement or vocalization when the repetition was neither requested nor desired

This component of the coding process was developed to assist the teacher in answering the following questions:

1. Does the student use spontaneous communication or only communication elicited by some act on the teacher's part?

2. Are all or most of the student's expressions simply reactions to stimuli (Positive Affect + Negative Affect), or are there also more directed communicative expressions which contribute to the pacing and maintenance of an interaction (Comply + Reject + Participate)?

3. Are the student's directed communicative expressions used only to comply (Comply), or are they used to take an active role in the interaction (Reject + Participate)?

4. Are the student's directed communicative expressions used principally to terminate or avoid interaction (Reject), or do they mostly serve to initiate or sustain interactions (Participate)?

5. How much of the student's use of signs and/or speech is simply a repetition of the teacher's communication (Echo)?

On the next pass, the teacher's communications were coded by form of communication used. The form is the method used to convey information. For example, the information "sit" can be conveyed by using the spoken word "sit," using a sitting motion, moving the hand downward toward the chair, pointing to the chair, patting the chair, or by pushing the child into the chair. Each of these methods of conveying "sit" is a different form of communication. The coding categories for teacher form are described below.

Categories for Coding the Form of Teacher Communications

Linguistic: speech and sign language

Non-Linguistic Conventional: conventional motor gestures, facial expressions, and non-verbal vocalizations

Touch: physical contact without manipulation

Manipulation: physical manipulation of the student

Contact-Pause: pause in movement involving physical contact where the pause is intended to elicit a response

Depictive Action: pantomime, demonstration, vocal depiction, pictures, and drawings

Non-Depictive Action: points, object display, non-conventional signals

No Contact Pause: pause in movement or vocalization where the pause is intended to elicit a response

Other: teacher actions which comply with a specific student request

In some cases, the teacher used more than one form simultaneously to convey information or to elicit a repsonse. In these cases, each form used, separated by a slash (/) was entered. For example, if the teacher attempted to convey information or elicit a response by simultaneously speaking and touching the student, the expression was coded as Linguistic/Touch.

The teachers' acts were then coded to describe the effect they had on the student. These categories include those described under "Categories for Coding Student Communication," but also describe categories for coding teacher expressions which do not result in an overt student response.

Categories for Coding the Effect of Teacher Communications

Positive Affect: indication of pleasure, alertness, or orientation in reaction to a stimulus

Negative Affect: indication of displeasure or discomfort in reaction to a stimulus

Comply: appropriate response to a specific request or demand

Reject: overt refusal to comply or participate

Participate: overt effort to participate in, add to, or to initiate an interaction

Echo: repeating a movement or vocalization of the teacher when the repetition was neither requested nor desired

No Effect: teacher directive failed to elicit a behavior or behavior change

Can't Tell: cannot be determined if the student's response resulted from the teacher's communication

No Response Expected: teacher's communication was intended to convey information, but not to elicit an immediate response

This component of the coding process was developed to assist the teacher in answering the following questions:

1. What forms of communication are used to convey information to students?

2. Are there forms of communication the teacher has not tried, but which might be effective?

3. What forms of communication are most effective in eliciting responses from the student?

4. What proportion of the teacher's directives had no effect in eliciting a response?

5. When communicating to give information with no response expected, does the teacher use forms of communication to which the student is responsive?

Preliminary Results

Tables A and B show the results of analyzing the communicative interaction between the same teacher-student pair in two different activities.

TABLE A

STUDENT RESPONSES

Form of Teacher Communication	Pos. Affect	Neg. Affect	Comply	Reject	Partic-ipate	Echo	No Effect	Can't Tell	No Resp Expected
Linguistic							3	1	38
Nonling Conv									2
Touch							1	1	
Manipulation	3	1	7				1	7	6
Contact-Pause									
Depictive									
Non-Depictive							2		
No Contact-Pause									
Total	3	1	7	0	0	0	7	9	46
Student's Spontaneous (Non-Elicited) Expressions	1								

In Table A the teacher used Linguistic, Touch, and Manipulation forms almost exclusively. The student showed no definitive responses to the Linguistic communications, yet when the teacher was attempting to convey information without expecting an immediate response (46 No Response

Expected), mostly the Linguistic forms (38 Linguistic) were used. Manipulations were effective in eliciting responses. However, the responses were either reactions to stimulation (3 Positive Affect + 1 Negative Affect), or were used to comply with teacher directives (7 Comply). None of the student's communication was used to take an active role in the interaction (0 Participate, 0 Reject), and throughout the interaction the student showed only one spontaneous expression (1 Positive Affect).

TABLE B

STUDENT RESPONSES

Form of Teacher Communication	Pos. Affect	Neg. Affect	Comply	Reject	Partic-ipate	Echo	No Effect	Can't Tell	No Resp. Expected
Linguistic							1	10	6
Nonling Conv									2
Touch			1	1					
Manipulation			2						
Contact-Pause									
Depictive									
Non-Depictive					7		1		
No Contact-Pause							1		
Non-Depict/Touch							1		
Linguistic/Touch			1						1
Linguistic/Manip							1		2
Ling/Non-Depict							2		
Pause/Pause					2				
Pause/Pause/Touch					2				
Other									2
Total	0	0	4	1	11	0	7	10	13
Student's Spontaneous (Non-Elicited) Expressions				1	3				

In B the teacher used a wider variety of communicative forms. Although Linguistic forms still yielded no definitive responses and Manipulation resulted only in acts to comply (2 Comply), the Touch, Non-depicitive, Pause/Pause, and Pause/Pause/Touch forms all elicited responses used to take an active role in the interaction. Also during the B interaction, the student spontaneously communicated to take an active role in the interaction.

Based on these results the teacher may consider making greater use of forms to which the student responds when attempting to convey information and to engage the student in an interaction. The teacher may also try to identify other aspects of the B activity which resulted in the student's more active participation and incorporate them in the A activity. The effects of the changes the teacher implements may be measured by reapplying the videotaping and coding procedures at a later date.

Tables C and D show results from another teacher-student pair.

TABLE C

STUDENT RESPONSES

Form of Teacher Communication	Pos. Affect	Neg. Affect	Comply	Reject	Partic-ipate	Echo	No Effect	Can't Tell	No Resp. Expected
Linguistic					2	1	3		12
Nonling Conv									
Touch									2
Manipulation								1	
Contact-Pause									
Depictive									
Non-Depictive					1				
No Contact-Pause									
Linguistic/Touch									2
Linguistic/Manip			3		4				2
Ling/Non-Depict					1				1
Total	0	0	3	0	8	1	3	1	19
Student's Spontaneous (Non-Elicited) Expressions									

TABLE D

STUDENT RESPONSES

Form of Teacher Communication	Pos. Affect	Neg. Affect	Comply	Reject	Partic-ipate	Echo	No Effect	Can't Tell	No Resp. Expected
Linguistic	1				7		4	2	8
Nonling Conv					1				2
Touch			1	3	2		3		
Manipulation									
Contact-Pause									
Depictive									4
Non-Depictive							1	1	
No Contact-Pause									
Linguistic/Touch					10				1
Total	1	0	1	3	20	0	8	3	15
Student's Spontaneous (Non-Elicited) Expressions	5			1	21				

In C the student contributed to the pacing and maintenance of the interaction (3 Comply + 0 Reject + 8 Participate), but showed no spontaneous communication. In D the student's contributions were more frequent. Based on these results, the teacher may try to improve the C activity by identifying and applying the strategies from the D activity which resulted in greater participation and more spontaneous expressions.

Table E shows an interaction between another teacher-student pair showing that the teacher used Linguistic forms almost twice as often as all other forms combined (43 Linguistic, 24 all other forms). However, the student only definitively responded to Linguistic forms twice (2 Positive Affect). The student apparently enjoyed the activity (6 Positive Affect) and complied with 4 teacher directives but did not take a very active role in the activity (1 Reject + 2 Participate). Based on these results, the teacher may try using communicative forms which are not Linguistic, especially when trying to convey information and may consider restructuring the activity to stimulate more responsiveness and participation from the student.

TABLE E

STUDENT RESPONSES

Form of Teacher Communication	Pos. Affect	Neg. Affect	Comply	Reject	Partic-ipate	Echo	No Effect	Can't Tell	No Resp. Expected
Linguistic	2						12	4	25
Nonling Conv							1		1
Touch							2		1
Manipulation	2		1	1			2	1	1
Contact-Pause									
Depictive									
Non-Depictive	1				1		1	1	1
No Contact-Pause									
Linguistic/Manip	1								
Linguistic/Depict							1		
Ling/Non-Depict			1						
Manip/Ling/ Non-Depict			2						
Other									1
Total	6	0	4	1	1	0	19	6	30
Student's Spontaneous (Non-Elicited) Expressions					1				

Table F shows the interaction between another teacher-student pair. In this activity, most teacher attempts to elicit a response had no effect (19 Total No Effect). This may mean that the student was just inattentive and the teacher would be advised to alter her interactive approach and/or the activity to stimulate more responsiveness and participation from the student. It may also indicate that the forms of communication the teacher used are not meaningful to the student. the teacher often used spoken language/signed language combination (17 Linguistic/Ling, 25 all other forms and form combinations). However, in each case the teacher expression either had no effect or the student repeated the teacher's sign. Based on these results, the teacher may consider using other communicative forms and form combinations in order to determine the most effective method for conveying information to the student.

TABLE F

STUDENT RESPONSES

Form of Teacher Communication	Pos. Affect	Neg. Affect	Comply	Reject	Partic-ipate	Echo	No Effect	Can't Tell	No Resp. Expected
Linguistic			1		1	2	3		3
Nonling Conv							1		1
Touch			2				3		1
Manipulation							1		
Contact-Pause									
Depictive					1				
Non-Depictive							1		
No Contact-Pause									
Linguistic/Ling						6	9		2
Linguistic/Nonling									2
Ling/Non-Depict							1		
Nonling/Nonling									1
Other/Ling/Ling						1			
Touch/Ling/Ling			1						
Total	0	0	4	0	2	9	19	0	10
Student's Spontaneous (Non-Elicited) Expressions									

Conclusion

Application of the procedures described here yield detailed assessment information concerning the student's communicative behavior and responsiveness to the communications of others. This information may be used to guide program design and implementation, to provide a method to evaluate interventions, and to measure student progress. In addition, when teachers code

tapes with others, the coding situation provides an excellent context for teachers to discuss communication, examine the features of specific interactions, and to consider the effectiveness of particular teaching strategies with individual students.

Acknowledgement

This project was supported by the U.S. Department of Education Grant G00860140. Opinions herein do not necessarily reflect the position or policy of the U.S. Department of Education, and no official endorsement by the Department should be inferred. The authors gratefully acknowledge the assistance of Jan Aylmer, Julie Dunn, Cathy Long, and Cheryl Anderson-Smith, and the cooperation of the teachers of the Fort Worth Independent School District, Jo Kelly School, Fort Worth, Texas.